

What is claimed is:

1. An apparatus for multimedia data stream production, comprising:

- 5 a virtual playback unit, decoding a multimedia data stream into a plurality of decoded video data packs and a plurality of decoded audio data packs sequentially;
- 10 a multitasking unit, analyzing the decoded video data packs and the decoded audio data packs to decode a source video data stream into a source video data pack or a source audio data stream into a source audio data pack; and
- 15 a data stream buffer unit, storing the source video data pack and the source audio data pack for integration into the multimedia data stream.

2. The apparatus as claimed in claim 1, wherein the virtual playback unit further comprises:

- 5 a decoding unit, decoding the multimedia data stream and retrieving the decoded video data packs and the decoded audio data packs;
- a video data register unit, registering the decoded video data packs sequentially; and
- an audio data register unit, registering the decoded audio data packs sequentially.

3. The apparatus as claimed in claim 1, wherein the multitasking unit further comprises:

an analysis unit, analyzing the decoded video data packs and the decoded audio data packs to produce an analysis result;
5 a selection unit, outputting source video data stream or the source audio data stream according to the analysis result; and
an encoding unit, receiving source video data stream or the source audio data stream
10 output from the selection unit, and decoding thereof into source video data pack or the source audio data pack.

4. The apparatus as claimed in claim 1, wherein the multitasking unit decodes source video data stream into source video data pack if the decoded video data packs are less than the decoded audio data packs in
5 the virtual playback unit.

5. The apparatus as claimed in claim 1, wherein the multitasking unit decodes the source audio data stream into the source audio data pack if there are fewer decoded audio data packs than decoded video data
5 packs in the virtual playback unit.

6. The apparatus as claimed in claim 1, further comprising a storage unit writing the multimedia data stream of the data stream buffer unit into a storage medium sequentially.

7. The apparatus as claimed in claim 1, wherein the apparatus is a production software.

8. A method for multimedia data stream production, comprising the steps of:

calculating playback time of a decoded video data pack;

5 calculating playback time of a decoded audio data pack;

decoding a source video data stream into a source video data pack if the playback time of the decoded video data pack is shorter than the
10 playback time of the decoded audio data pack; and

decoding a source audio data stream into a source audio data pack if the playback time of the decoded audio data pack is longer than the
15 output time of the decoded video data pack.

9. The method as claimed in claim 8, further comprising integrating the source video data pack and the source audio data pack sequentially into a multimedia data stream.

10. The method as claimed in claim 8, wherein the decoded video data pack and the decoded audio data pack are decoded from the multimedia data stream.